Occupational & Environmental Health

Address

by

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International OISD conference on Occupational & Environmental Health

13.12.13
OCCUPATIONAL HEALTH

PHYSICAL, MENTAL & SOCIAL WELL BEING IN RELATION TO WORK AND WORK ENVIRONMENT.

Care Without Scare...!
What is Occupational Health?

- Health problems arising from or pertaining to work
- Health of people at work
- The Health of the gainfully employed
- Relationship between Occupation (work) & Health
All occupational diseases can be prevented.

Occupational diseases have a long latent period.

Some occupational diseases cannot be treated.

Good physical conditions & mental health results in low occupational injury rates
OCCUPATIONAL HAZARDS

- Physical Hazards
- Chemical Hazards
- Biological Hazards
- Mechanical Hazards
- Psychosocial Hazards

“What the mind does not know, the eyes do not see”
Routes of Exposure

- **Inhalation**
  - Gas, Vapour, Aerosol, Dust, Fume, Smoke, Mist, Fog

- **Ingestion**

- **Skin Absorption**
  - Eating, Smoking
  - Primary irritants, Allergy, Systemic toxicity
OCCUPATIONAL DISEASES

Diseases due to Physical Agents:

- **Heat** - Heat stroke, Burns
- **Cold** - Frost bite
- **Light** - Cataract
- **Pressure** - Caisson disease, Air embolism

*Sound occupational Health is Industry’s wealth*
Diseases due to Physical Agents:

- **Noise** - Hypertension, Irritability, Stress
- **Vibration** - Neuromuscular diseases, Peripheral vascular diseases
- **Radiation** - Leukemia, Aplastic anemia
- **Mechanical** - Injuries, Accidents
- **Electricity** - Electric shock, Burns

**OCCUPATIONAL DISEASES**
OCCUPATIONAL DISEASES

Diseases due to Chemical Agents:

- **Gases** - CO, CO2, H2S, Fuel Gas
- **Dusts** - Pneumoconiosis
- **Metals** - Lead
- **Chemicals** - Acids, Alkalies, Ammonia, DMDS
- **Solvents** - Benzene, Tolune, Naphtha

Disease due to dust (From Catalyst) - Asthma
Musculo-skeletal problems

- Due to Excessive load on the muscles, ligaments, tendons and bone.
- Due to Insufficient circulation to the Musculoskeletal system.
- Work that requires activity of a small group of relatively weak muscles (such as continuous use of fingers of the dominant hand in data entry).
Common sites for Musculo-skeletal problems

• Neck
• Forearm
• Wrist
• Fingers
• Back
• Knee
Computers / VDU

- Repetitive Strain Injury - Tenosynovitis, Tendinitis, Tennis Elbow, Carpal Tunnel Syndrome, Trigger Finger
- Musculoskeletal Problems in Neck, Shoulder & Upper Limbs
- Visual Fatigue & Eye Problems
- Bifocals & Computers
- Skin Diseases
- Low Back Pain
- Effects of Shift Work
Occupational health & Computer work

- Musculo-skeletal problems
- Ocular problems
- Reproductive problems
- Skin problems
- Psychosocial problems
- Lifestyle problems
Repetitive Strain Injury

- Muscular stress caused by the frequent, repetitive use of the same muscle throughout the day.
- Accustomed and unaccustomed repetitive work with hands.
- Work that involves repeated wrist flexion or extreme extension, particularly in combination with forceful pinching.
- Repeated forces on the base of the palm or wrist.
Elements of Occupational Health Services

- Medical treatment
- Assessment and control of work environment
- General preventive health measures
- Preventive medical examinations
Prevention of Occupational Health Hazards

- Administrative Measures
- Engineering Measures
- Ergonomics
- Medical Measures
The IEA divides ergonomics broadly into three domains:

- **Physical ergonomics**: working postures, materials handling, repetitive movements, work related musculoskeletal disorders, workplace layout, safety and health.

- **Cognitive ergonomics**: mental workload, decision-making, skilled performance, human-computer interaction, human reliability, work stress and training as these may relate to human-system design.

- **Organizational ergonomics**: communication, crew resource management, work design, design of working times, teamwork, community ergonomics, cooperative work, new work programs, virtual organizations, telework, and quality management.
Goals Of Ergonomics

- Improve quality of working environment engineered to the capabilities of the human body
- Increase efficiency and productivity by reducing fatigue.
- Prevention of Occupational injury & illness.
- Work quality improvement.

- Proactive Ergonomics
- Vs
- Reactive Ergonomics
MEDICAL MEASURES — OISD-GDN-166

- Pre-employment medical check up
- Periodic medical examination
- Health promotion
- Health education
- Specific protection
- Assessment of risk by supervision of working environment

a healthier workforce will be a safer workforce
Pre-employment Medical Examination

- To determine the physical and emotional capacity of the individual to perform the job.
- To provide base line health data for epidemiological and legal purposes.
- To counsel the person for correction of diseases / habits which may harm later.
- Assessment of pre-existing toxicity / impairment due to past exposure, if any.
**Pre-placement Medical Examination**

<table>
<thead>
<tr>
<th>HAZARD</th>
<th>UNDESIRABLE CONDITIONS</th>
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<tbody>
<tr>
<td>Lead</td>
<td>Anaemia, Hypertension, Peptic ulcer</td>
</tr>
<tr>
<td>Dyes</td>
<td>Asthma, Skin &amp; Kidney disease</td>
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<tr>
<td>Solvents</td>
<td>Liver &amp; Kidney disease, Alcoholism</td>
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<tr>
<td>Silica</td>
<td>Tuberculosis, Chronic lung disease</td>
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<tr>
<td>X rays / Radium</td>
<td>Blood diseases</td>
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Periodic Medical Examination

- Evaluation of general health status.
- Earliest detection and prevention of work related disorders.
- Early detection, control and prevention of any health disorder which may affect the ability to perform the job.
- To detect deviation in health status from base line data.
- Detection of infectious / communicable diseases which may affect others.
Common Concerns

- Shift Work
- Emotional Stress
- Ergonomic
- Slips, trips, falls
- Violence?
Preventive Measures

- Universal Precautions
- Training & Education
- Medical Surveillance
- Immunization
- Identify, Monitor & Control exposures
- Stress Management
- Violence Prevention Program
To Summarize

Personal Health & Personal Safety

Each essential to a productive worker & to a productive work place & effectively combined in a symbiotic manner that increases their impact on overall health & productivity.

Activity is to be incorporated in workplace health protection are

• Assessing workers health status
• Addressing personal health risk.
• Early recognition & treatment of injury or illness.
• Job Safety Initiative & efforts to create culture of health & safety
• Promoting overall health & preventing workplace injuries & illness

**HEALTHIER WORKFORCE BECOMES A SAFER WORKFORCE & VICE VERSA**